

Remarks on the fossil genus *Vultogryphaea* Vyalov (Pelecypoda: Mollusca) with description of a new species from Cretaceous beds of South India

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Abstract. Presence of orbicular muscle mark close to hinge margin and typical exogyriid ligamental area characterised by twisted nature, indistinct anterior bourrelet and sharp-crested posterior bourrelet as revealed in our recently acquired material confirms placement of the genus *Vultogryphaea* Vyalov to subfamily Exogyrinae as proposed by Stenzel. New species *Vultogryphaea erumanurensis* comes from Erumanur, Vriddachalam area, Tamil Nadu. The present material takes the time range of the genus to Maestrichtian.

Keywords. *Vultogryphaea erumanurensis*; internal characters; geological range.

1. Introduction

The genus *Vultogryphaea* Vyalov is represented so far by the species *V. vultur* (Coq.) from the Upper Cretaceous of France. Because of insufficient information about its inner shell characters the genus was placed originally by Vyalov (1936) as a new subgenus of *Fatina*. However, on the basis of ophisthogyral turn of LV beak and exogyrate character of the ligamental area seen only indistinctly in one of the specimens of *V. vultur* Stenzel (1971) preferred transferring this genus to the tribe Exogyriini under subfamily Exogyrinae Vyalov.

This genus thus remained imperfectly known as all the specimens available till now to Stenzel were filled with hard limestone, concealing the essential internal details.

The left valve of *Vultogryphaea vultur* (Coq.) reported by Chiplonkar and Tapaswi (1978) from the Kallankurichchi Formation of Ariyalur Group (Sastri *et al* 1968), though well preserved, is also filled with hard brown limestone rendering it unfavourable for cleaning.

The present author has been able to secure one specimen assignable to this genus from white, friable, calcareous sandstone of the upper portion of Patti Formation (Rasheed and Govindan 1966) from a well excavation at Erumanur.

Since this specimen was filled with soft matrix, it was cleaned sacrificing RV to expose the internal morphological details of the LV, which decisively prove its taxonomic position.

2. Systematic description

Suborder :	Ostreina Ferussac, 1822
Super-family :	Ostracea Rafinesque, 1815
Family :	Gryphaeidae Vyalov, 1936
Sub-family :	Exogyrinae Vyalov, 1936
Tribe :	Exogyriini Vyalov, 1936
Genus :	<i>Vultogryphaea</i> Vyalov, 1936

Vultogryphaea erumanurensis sp. nov. (figures 1-4).

Description : Shell tall, ovate with very capaceous LV and deeply concave RV; beak of LV opisthogyrate and incurved; area of attachment small; a well developed posterior keel running from beak up to $1/3$ height of shell and thence continuing as one of the five strong flexuous ribs bearing hyote spines. RV smooth and thin.

Ligamental area narrow, but very long and spiralled; anterior bourrelet indistinct, merging into a deep resilifer area; posterior bourrelet forming a distinct sharp crested ridge; short commissural shelf restricted to posterodorsal region; LV with a row of circular catachomata just above the anterior bourrelet; corresponding anachomata on RV.

Adductor muscle imprint orbicular, fairly large and situated close to hinge margin.

Material : One specimen holotype No. M.A.C.S. G 1381.

Dimensions : Length 87 mm. Height 100 mm. Muscle mark diameter 30 mm.

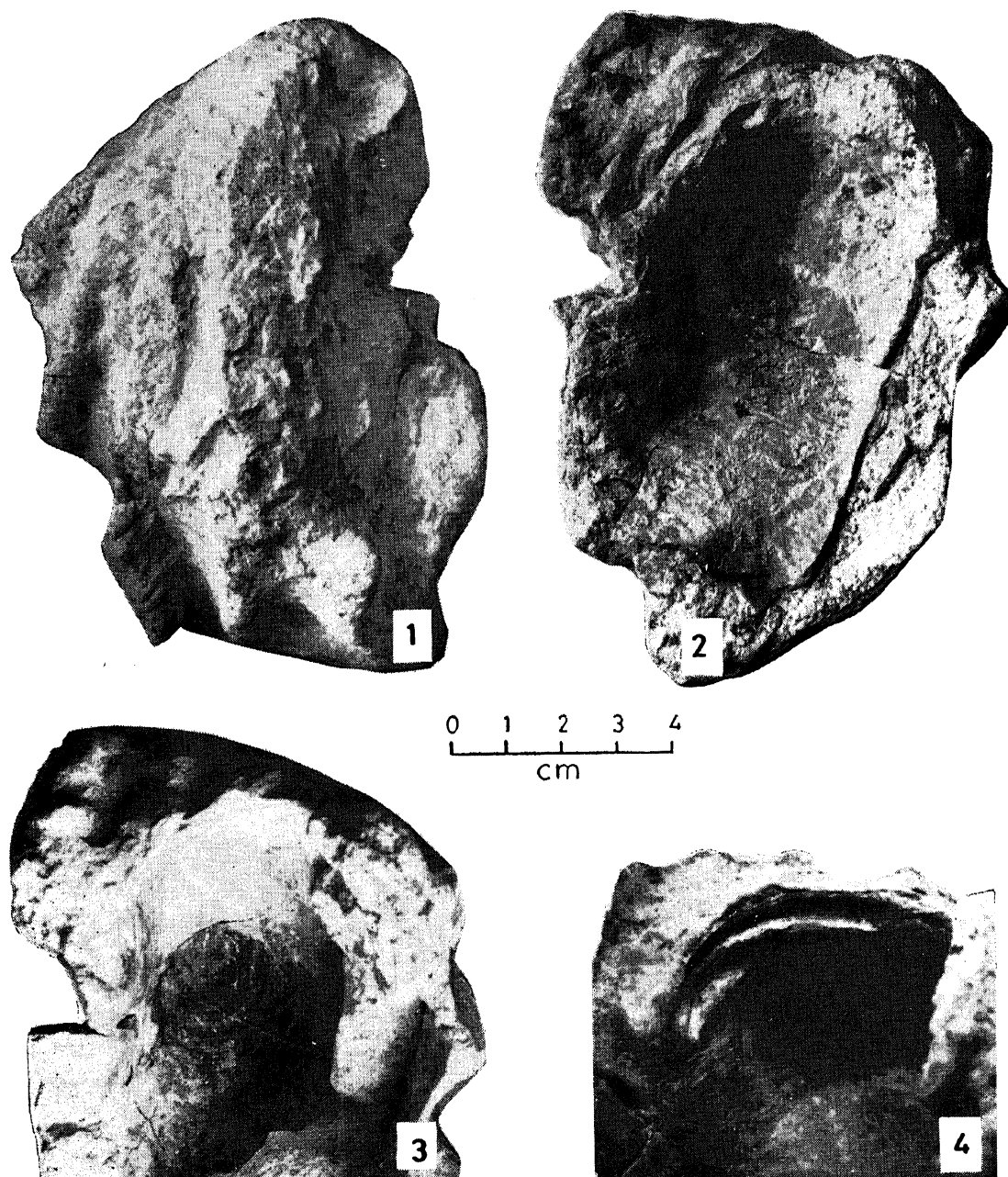
Geologic and geographic occurrence: From white friable sandstone, upper portion of Patti Formation at Erumanur, Vriddachalam, Tamil Nadu (Upper Campanian—Maestrichtian).

Remarks: The present species differs from *Vultogryphaea vultur* (Coq.) (Coquand 1869, p. 118, pl. 39, figures 1-4; Stenzel 1971, p. N 1124, figure J94, 2) reported from the Lower Chalk (=Carentonien=Cenomanian) of France, and the Kallankurichchi Formation, Ariyalur Group of South Indian Cretaceous deposits (Chiplonkar and Tapaswi 1978) in having oval than triangular outline, strongly developed keel-like radial ribs which persist from juvenile stage, presence of chomata and RV lacking radial grooves.

The placement of the genus *Vultogryphaea* Vyalov in the tribe Exogyriini remained doubtful due to lack of a detailed picture of the inner shell characters in the included species. The presence of an orbicular muscle mark close to the hinge margin, the opisthogyral turn of LV beak and the spirally twisted ligamental area in *V. erumanurensis* sp. nov. are typical of the tribe Exogyriini *sensu* Stenzel (*op. cit.*) which therefore confirms the placement of the genus *et* species in the latter tribe.

This new discovery from Vriddachalam area extends the time range of the genus to Maestrichtian.

Etymology : Name of the species is after the locality from which it is collected now.



Figures 1-4. *Vultogryphaea erumanurensis* sp. nov. Holotype No. MACS G 1381
1. LV side view. 2. Capaceous RV. 3. Interior of LV showing orbicular muscle mark. 4. LV hinge area.

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References

- Chiplonkar G W and Tapaswi P M 1978 Comments on oysters from the Upper Cretaceous of Trichinopoly District, South India ; *Prof. R. N. Sukheswala Felicitation Volume* (in press)
- Coquand H 1869 *Monographie du genre Ostrea terrian Cretace* (Paris : J B Baillier and Fils) p. 215
- Rasheed D A and Govindan A 1966 Stratigraphy of the Cretaceous rocks of Vriddachalam, South India ; *Bull. Geol. Soc. India* 3 71-74
- Sastry M V A, Rao B R J and Mamgain V D 1968 Biostratigraphic zonation of the Upper Cretaceous Formations of Trichinopoly District, South India ; *Mem. Geol. Soc. India* 2 10-17
- Stenzel H B 1971 Oyster in *Treatise on invertebrate paleontology* (ed.) R C Moore (Kansan: Geol. Soc. Am. and Univ. Kansan Press) Part N (3 of 3) Mollusca 6 Bivalvia N 953-N 1124
- Vyalov O S 1936 Sur la classification des huitres ; *Acad. Sci. URSS Computes Rendu (Doklady)* New Ser. 4 17-20

